

## CLAIMS

1. A bacterial culture for use in bacterial oxidation of sulphide ores and concentrates, the bacterial culture identified by AGAL deposit Accession No. NM99/07541 or having been adapted therefrom.
2. A process for bacterial oxidation of sulphide ores and concentrates characterised in that the ore or concentrate is leached using either a bacterial culture identified by AGAL deposit Accession No. NM99/07541 or a bacterial culture adapted therefrom.
3. A process according to claim 2, characterised in that the sulphide ore or concentrate contains chalcopyrite.
4. A process according to claim 2, characterised in that the leach is conducted in a form selected from the group consisting of:
  - a heap leach,
  - a tank leach,
  - a vat leach, and
  - a dump leach.
5. A process according to claim 2, characterised in that the bacterial culture is not indigenous to the ore or concentrate to be oxidised.
6. A process according to claim 2, characterised in that the ore or concentrate is provided at a grind or crush size of equal to or greater than  $P_{80} 75\mu\text{m}$ .
7. A process according to claim 2, characterised in that the ore or concentrate is provided at a grind or crush size of equal to or greater than  $P_{80} 90\mu\text{m}$ .

8. A bacterial culture for use in oxidation of sulphide ores and concentrates, the bacterial culture containing one or more strains of both *Sulfobacillus* and *Thermoplasma*.
9. A bacterial culture according to claim 8, characterised in that the culture is operable in the oxidation of sulphide ores and concentrates across a temperature range of 45 to 90°C.
10. A bacterial culture according to claim 8, characterised in that the culture is operable in the oxidation of sulphide ores and concentrates across a temperature range of 45 to 65°C.